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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,625	09/17/2001	William T. Turner	12017-26/NEC	7554

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EXAMINER

WARREN, DAVID S

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



## Office Action Summary

Application No.

09/954,625

Applicant(s)

TURNER, WILLIAM T.

Examiner

David S. Warren

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 24-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |



## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24 – 27, 29 – 33, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (3,657,461) in view of Kinman (5,834,999).

Regarding claim 24, Freeman discloses a humbucking pickup (col. 2, lines 72 – 75) having two coils (26, 27) separated by a substantially planar ferromagnetic plate (20, col. 2, lines 67 – 71). Freeman discloses a single magnetic pole piece (15) that is “disposed at least partially within both the first wire coil and the second wire coil.”

Freeman does not disclose a “plurality of magnetic pole pieces” disposed within the wire coils. Kinman discloses both a single magnetic pole piece disposed between two coils (fig. 6) and multiple pole pieces disposed within two coils (fig. 1). It would have been obvious to one of ordinary skill in the art to modify the teachings of Freeman with those of Kinman to obtain a two coil pickup having a ferromagnetic plate between coils and having multiple pole pieces. The motivation for making this combination is that Kinman shows (in fig. 6 and fig. 1) that both configurations are used in two-coil systems, wherein the coils are separated by a ferromagnetic plate. One of ordinary skill in the art would certainly consider the teachings of the equivalency between multiple or single pole



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pieces when considering the benefits as taught by Freeman. Regarding claim 25, both Freeman and Kinman show plates that separate the north and south magnetic field lines (fig. 1 of Kinman, fig. 3 of Freeman). Regarding claim 26, Kinman shows the use of elongated pole pieces (39), both Kinman and Freeman show ferromagnetic material “substantially perpendicular” with the magnets (figs. 1 and 3, respectively). Regarding claim 27, see Freeman figs. 3 – 5. Regarding claim 29, both Freeman and Kinman show a first coil disposed above a second coil (figs. 3 and 1, respectively). Regarding claims 30, Freeman discloses oppositely wound coils (col. 1, lines 60 – 63; col. 2, lines 44 – 48). Regarding claim 31 – 33, Freeman shows a ferromagnetic plate that does not extend upward or downward (figs. 3 – 5). The examiner has already shown that one of ordinary skill would find it obvious to include multiple pole pieces into the pickup of Freeman (see the discussion *supra* for appropriate motivation). Regarding claims 35 and 36, Freeman discloses the claimed invention except for the dimensions of thickness for the ferromagnetic plate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a plate of at least 0.1 inches, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 233.) *In re Woodruff*, 919 F. 2d 1575 (Fed. Cir. 1990) requires the applicant to set forth reasons that “show that the claimed range achieves unexpected results relative to the prior art.” The examiner does not believe that applicant’s discussion (see applicant’s specification, the paragraph bridging pages 7 and 8) of plate



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thickness shows “unexpected results” over the prior art. (It is also noted that the applicant did not refute this assertion in the arguments.)

Claims 28 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman and Kinman in further view of Blucher et al. (5,811,710). The teachings of Freeman have been discussed above pertaining to independent claim 24. Regarding claims 28 and 34, Blucher discloses the use of a two-coil pickup having a ferromagnetic separator wherein both coils are wound around bobbins (col. 3, line 44). Blucher further discloses the use of side plates for concentrating the magnetic field lines from the coils (see discussion below that addresses applicant’s comments regarding this interpretation). It would have been obvious to one of ordinary skill in the art to combine the teachings of Freeman, Kinman and Blucher to obtain a pickup having a flat ferromagnetic plate separating top and bottom coils, with plural pole pieces, and wound on bobbins. The motivation for making the combination with Blucher is that winding on bobbins is well-known for providing support to flexible wire windings.

Claims 37 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman in view of Blucher. Regarding claim 37, Blucher discloses a first wire coil (21), a first bobbin (2) about which the first coil is wound, a second wire coil (31), a second bobbin (3) about which the second wire coil is disposed, a ferromagnetic plate disposed between the first and second wire coil, and wherein the pickup coils are configured to create a humbucking effect (col. 1, line 6). Blucher does not disclose the use of a



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planar ferromagnetic plate in a substantially neutral location. Freeman discloses a planar ferromagnetic plate (20) disposed in a magnetically neutral position between an upper and lower wire coil. It would have been obvious to one of ordinary skill in the art to combine the teachings of Freeman with those of Blucher to obtain a two-coil pickup wherein the coils are wound on bobbins and separated by a planar ferromagnetic material. The motivation for making this combination is that bobbins are notoriously old implements for winding and provide a stable structure to house and support the windings. Regarding claim 38, all limitations are discussed supra except the guitar having a body and the pickup disposed on the body. This is taught by Freeman (fig. 1). Regarding claim 39, the method is inherent in the resultant apparatus taught by the combination of Freeman and Blucher. Regarding claim 40, all limitations are discussed supra except "converting vibrations of strings of a musical instrument into electrical signals" and "causing at least one string to vibrate." This is taught by Freeman (col. 2, lines 62 – 67).

### ***Response to Arguments***

Applicant's arguments with respect to claim 24 have been considered but are moot in view of the new ground(s) of rejection. The examiner concurs, Freeman does not disclose the use of a plurality of magnetic pole pieces. However, one of ordinary skill would certainly consider the vast history of use of plural pole pieces when contemplating the teachings of Freeman.



Regarding applicants remarks pertaining to claim 34, the examiner contends that "concentrating the electromagnetic field generated by the upper and lower coils" (as argued by applicant) and "magnetically isolate the upper and lower coils" (as taught by Kinman) are not mutually exclusive situations. The examiner contends that the plates of either Kinman or Blucher will tend to concentrate the field lines produced from the coils in seeking the path of least reluctance (i.e., the path of least reluctance is through the plates). The examiner concurs that the coils will also be "isolated" – nevertheless, the fields will also be concentrated. Specifically, Blucher states "[t]he plate is disclosed as functioning as a transmission medium for the directed flow of magnetic field creating an efficient field interaction with the magnets and the strings" (col. 1, lines 55 – 59). Blucher also discloses the "focused magnetic field" (i.e., concentrated) due to the plates (col. 4, line 12).

To recapitulate the rejection, it appears that the applicant's invention would be seen by one of ordinary skill to combine the flat plate of Freeman with the pair of steel plates of Blucher to achieve similar results as those of Blucher and Freeman. The examiner notes that claim 34 also contains the limitation wherein the plates are not in physical or electrical contact. Since the magnetic field lines will be concentrated within the plates of Blucher, irregardless of physical or electrical contact, the teachings of Blucher are deemed to be functionally equivalent. In other words, the invention according to Blucher will perform in the same manner whether or not the plates are in contact or not (physical contact is not required in a "path of least reluctance").



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In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. *In re McLaughlin*, 443 F. 2d 1392; 170 USPQ 209 (CCPA 1971).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Warren whose telephone number is 571-272-2076. The examiner can normally be reached on M-F, 9:30 A.M. to 6:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2800 ext 37. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dsw



MARLON T. FLETCHER  
PRIMARY EXAMINER